

Notes on Southern African Rhopalocera (Lepidoptera)

By D. M. KROON

Family : HESPERIIDAE

Genus : *GEGENES* Hübner (1819)

Evans in his monograph of the African HesperIIDae (1937) observes: "The genitalia of *G. hottentota* and *G. letterstedti* (= *G. niso*) seem alike."

Several microscopical genitalic preparations of both *G. niso* (L.), 1764, and *G. hottentota hottentota* (Latreille), 1823 i.e., with the black patch on the forewing, do not seem to bear out this statement. Specimens dissected for this study originated near Salisbury — Rhodesia, Sasolburg — Orange Free State, Estcourt — Natal, and Honeydew Vlei near Johannesburg in the Transvaal.

Though similarly shaped, structural differences are present in the valves. The apices of *G. hottentota* valves are decidedly rounded, whereas in *G. niso* they taper to a relatively sharp point (Figs. 3 and 4, Plate 1). The valvular spine is also longer and more dentate in *G. hottentota*. The preparation when viewed ventrally reveals another difference. The subunci of *G. hottentota* angulate sharply medially from their origin for about a third of their length, then continue distally in a parallel fashion till they overlap the end of the uncus where they diverge sharply (Fig. 1, Plate 1). The subunci of *G. niso* appear as more or less straight structures gradually converging as they approach the end of the uncus, where they also diverge sharply (Fig. 2, Plate 1).

G. hottentota hottentota appears to be rare in South Africa. In the Transvaal Museum are some specimens bearing locality labels marked Nelspruit, and more recently specimens have been taken at Honeydew Vlei by Mr W. H. Henning and his sons. *G. hottentota oca* (Evans) is fairly widespread in South Africa though less common than *G. niso*.

Family : LYCAENIDAE

Genus : *SYNTARUCUS* Butler (1900).

Falling into this group in Southern Africa are a group of microscopically similar butterflies. The male genitalia, however, are quite distinct and have been described by Mr H. Stempffer and Mr G. E. Tite. Included is a series of photographs illustrating the valvular differences, as well as the subunci, of the five Southern African species. Included are also photographs depicting two variations of valvular form found in *S. pirithous* (L.). The first of these depicts a small spine or spines at the base of the larger spine but on the INNER curvature of the valve (Fig. 9B, Plate IV). The second refers to a form with a ridge of spines on the OUTER curvature (Fig. 10A,

Plate IV), which I have only found in South West Africa near Fort Namutoni.

Identification of the species can be positively established by genitalic examination using as reference the specific differences exhibited mainly by the valves but also the subunci. Naked eye appearances of the imago being so deceptive, the collector is faced with no alternative but to net every specimen in the field, and subject it to microscopic examination later. Females taken in copula establish their identity with certainty, but current research into the female structures is also revealing differences. Attempts have been made to establish criteria for separating males using external features, but, in any long series, variations become only too apparent. *S. pulcher* (Murray), 1874, however, does differ and can be separated fairly readily from other members of the Genus. *S. jaenneli* (Stempffer), 1935, can sometimes be separated on examining the hind-wing underside, which is browner and has thinner wavy white lines medially and a broader white submarginal band.

In practice I have found it useful to compress gently the lower abdomen of all my specimens with flat forceps shortly after they have died. The genitalia extrude and remain sufficiently exposed for positive microscopic examination later without damaging the specimen in any way. Furthermore, with a keen eye and a 15X hand lens it is possible to identify *S. piri-thous* specimens and separate these from the other less common members of the Genus in the field.

DISTRIBUTION RECORDS—SOUTHERN AFRICAN SYNTARUCUS

These records refer only to specimens dissected by myself and falling within the artificial Southern African Zone.

S. jaenneli Stempffer, 1935: (Figs. K. and L, Plate V).

Mention has already been made of the undersides of this species which do appear to exhibit some differences from other members of the Genus. Early in September, I have taken a series near Sabie in the Eastern Transvaal. During January Mr W. Teare took a series at the same spot flying in the company of *S. piri-thous*. In Swaziland they fly at Mbabane. Mr A. J. Duke has taken specimens at Mazoe in Southern Rhodesia.

They occur not uncommonly along the Eastern Escarpment of Rhodesia and I have taken them in April at Umtali, the Vumba Mountains, and Burma Valley. I should point out here, at his own request, that Mr C. G. C. Dickson erroneously reported a few years ago that he had found the species at Durban, Natal. In fact the species concerned was subsequently described by Mr G. E. Tite as *S. brevidentatis*. Other workers have recently informed me that *S. jaenneli* flies in the Northern Transvaal at the Entabeni Forest. *Genitalia Figured*: (valves Fig. 5A+5B, subuncus Fig. 5C, aedeagus Fig. 5D, Plate 11).

S. babaulti Stempffer, 1935: (Figs. E and F, Plate V).

Previously not recorded from Southern Africa, it has in fact been caught in several localities, its identity being confirmed by dissections made by Mr C. G. C. Dickson and myself. To date it has not been taken in South Africa itself. *S. babaulti* was discovered in South Africa for the first time on 28th October 1972, by Mr Graham Henning, and the genetical dissections made by myself confirmed his finding. They were flying with *S. pirithous* and *S. jeaneli* at Barberton, Eastern Transvaal. It occurs in several spots in Southern Rhodesia and Mozambique. Specimens sent to us for dissection from Mr A. J. Duke near Salisbury proved to be *S. babaulti*. In September, they have been taken at Mapembi, the Vumba Mountains and Xiluvo in Mozambique. During April I have caught them at Umtali, Vumba Mountains, Burma Valley and Xiluvo in Mozambique. In a single locality near Umtali *S. jaenneli*, *S. brevidentatis*, *S. pirithous*, and *S. babaulti* were flying together in April. *Genitalia Figured*: (valves Fig. 6A+6B, subuncus Fig. 6C, aedagus Fig. 6D, Plate 11).

S. brevidentatis Tite, 1958: (Figs. G+H, Plate V).

This is not a rare species, being distributed throughout the Sub-continent but occurring in localized pockets. In the Eastern Cape it occurs at Van Staaden's River Pass and along the Natal coast near Durban. During September it flies together with *S. pirithous* on Plumbago plants at Letaba in the Eastern Transvaal. In April I have found it abundant at the Buybe River in Southern Rhodesia. It occurs near Salisbury, and at Umtali both in Rhodesia. Mr W. Teare has taken a good series at Hartebeestpoort Dam near Pretoria in the Transvaal. In South West Africa I only found them in the Waterberg Mountains, though *S. pirithous* was very common everywhere. They were abundant in the Waterberg during late September but less common in December at the same locality. *Genitalia Figured*: (valves Fig. 7A+7B, subuncus Fig. 7C, aedagus Fig. 7D, Plate 111).

S. pulcher Murray, 1874: (Figs. I+J, Plate V).

This lovely little species is fairly distinctive and usually separable on inspection. The male genitalia resemble those of *S. brevidentatis* but the subunci are almost smooth and not markedly serrated as in this species. Although rare, it has been taken in Natal, a good series having been presented to me by Mr W. Teare taken at Enseleni River mid-December. It is said to be common at the Victoria Falls and has been taken at Lourenco Marques and north of Beira in a swampy locality. *Genitalia Figured*: (valves Fig. 8A+8B, subuncus 8C, aedagus Fig. 8D, Plate III).

S. pirithous (L.): (Figs. A—Namutoni specimen, Fig. B+C+D, Plate V).

This name has replaced *S. telicanus* (Lang), 1789. This species is the most abundant member of the Genus, being widely distributed throughout our zone, and further north through Africa to Europe. The valve is easily identified, and bears a single tapered spine. Randomly distributed is another form of the same valve where small single or multiple spines occur at the base of the major spine (Figs. 9B+10E, Plate IV),

Amongst Rhodesian specimens dissected this was very common and also occurred in South West African material. Another variant found in South West Africa is one where there exists a ridge of spines on the OUTER curvature of the larger spine (Fig. 10A, Plate IV). In a personal communication Mr H. Stempffer assured me that amongst hundreds of specimens he has dissected from all parts of Africa he has not seen this form before, but considers it merely a variant of *S. pirithous*.

Genitalia Figured: (Fig. 9A valve, 9B valve with basal spine, 9C subuncus, 9D aedeagus, 10A valve of Namutoni specimens with ridge on outer surface, 10E internal ridge enlarged, 10C subuncus of Namutoni specimens, 10D aedeagus of Namutoni specimens). Plate IV.

Searching for other structural differences has not been rewarding. Photomicrographs of *Syntarucus* eyes has revealed no differences up to magnifications of several thousand. Fig. 10B, Plate 1 shows clearly the architecture of the compound eye with hairs and a single scale.

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